

GROUP	4	HERBICIDE
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Nufarm WEEDONE® 100

2,4-D ESTER LV500
Liquid Herbicide

Contains 2,4-D Low Volatile Esters

FOR USE IN WHEAT, BARLEY, RYE, ESTABLISHED PASTURES,
RANGELAND, STUBBLE LAND, ROADSIDES,
UNCROPPED LAND AND CONTROL OF WOODY GROWTH

AGRICULTURAL

GUARANTEE: 2,4-D 475 g/L (isomer specific)
(present as iso-octyl ester)

WARNING POISON

REGISTRATION NUMBER 13700
PEST CONTROL PRODUCTS ACT

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

Nufarm Agriculture Inc.
5507 1st Street SE
Calgary, Alberta T2H 1H9

24 Hour Emergency
Response Number
1-800-424-9300

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. Avoid contact with skin, eyes and clothing. Wash concentrate from skin or eyes immediately. Do not inhale fumes. Avoid breathing spray mist. Avoid spray drift. Store the container tightly closed and away from seeds, feeds, fertilizer, plants and foodstuffs.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S. contact 1 866 375-4648 or www.cropro.org.

PROTECTIVE CLOTHING AND EQUIPMENT:

Handling the concentrate (mixing and loading): Wear long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes and protective eye wear (face shield or safety glasses). Rinse gloves before removal. Coveralls or a chemical-resistant apron should also be worn when open pouring from containers greater than 5 L.

Handling the dilute spray solution (during application or repairing or cleaning equipment): Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Rinse gloves before removal. Gloves are not required during application when applicator is in an enclosed tractor or in an enclosed airplane cockpit.

OPERATOR USE PRECAUTIONS:

- Wear freshly laundered clothing and clean protective equipment daily.
- Rinse gloves before removal.
- Wash hands before eating, drinking, using tobacco or using the toilet.
- If herbicide penetrates clothing remove immediately; then wash thoroughly and put on clean clothing. Throw away clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate.
- After using this product, remove clothing and launder separately and promptly and thoroughly wash hands and exposed skin with soap and water. Follow manufacturer's instructions for cleaning personal protective clothing and equipment. If no such instructions for washables are provided, use detergent and hot water. Keep and wash personal protective equipment separate from household laundry.
- After work, remove all clothing and shower using soap and water.

TRANSFER SYSTEM:

For containers larger than 20 L: Use a transfer system that avoids open pouring when transferring the liquid concentrate from such containers into the spray tank.

FIRST AID:

This product contains petroleum distillates.

If swallowed DO NOT induce vomiting. Rush patient to nearest hospital taking this label with you or contact a poison control centre. Never give anything by mouth to an unconscious person.

In case of skin contact, remove contaminated clothing and wash skin thoroughly with soap and water or contact a poison control centre.

In case of eye contact, flush with plenty of water for 15 minutes and get medical attention or contact a poison control centre.

If inhaled, remove to fresh air and get medical attention or contact a poison control centre.

Take container, label or product name and Pest Control Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION:

Treat symptomatically.

STORAGE:

This product may be stored at any temperature. Insecticides and fungicides should be segregated from herbicides so as to prevent the possibility of cross-contamination.

SHAKE WELL BEFORE USING.

DISPOSAL:

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

DISPOSAL FOR RETURNABLE CONTAINERS:

Do not re-use this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

DISPOSAL FOR RETURNABLE - REFILLABLE CONTAINERS:

For disposal, this container may be returned to the point of purchase (distributor/dealer).

It must be refilled by the distributor/dealer with the same product. Do not use this container for any other purpose.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE TO BUYER:

Seller's guarantee shall be limited to the terms set out on the label and, subject thereto, the buyer assumes the risk to persons or property arising from the use or handling of this product and accepts the product on that condition.

NOTICE TO USER:

This control product is to be used only in accordance with the Directions on this label. It is an offence under the *PEST CONTROL PRODUCTS ACT* to use a control product under unsafe conditions.

DIRECTIONS FOR USE:

USE PRECAUTIONS:

Avoid spray drift to any desirable vegetation NOT listed on this label as damage may occur. Avoid contamination of ponds, streams, rivers and other water sources. Do not spray during periods of high winds when spray is likely to drift. Coarse sprays are less likely to drift. Do not spray during periods of high temperatures when crops may be under stress as damage to the crop may occur.

TIMING:

For best results spray when WEEDS ARE YOUNG AND ACTIVELY GROWING. Apply in good growing conditions. Application must be made before the crop canopy shields the weeds.

SPRAYER:

Clean all spray equipment thoroughly before use. Select nozzle tips to apply the recommended volume per hectare. Higher water volumes will reduce the risk of crop injury. Calibrate the sprayer and adjust the boom height to ensure uniform coverage. Nozzles must be in good condition and spraying the same volume. Flat fan nozzle tips are recommended.

MIXING:

Shake this product well before using. Half fill the spray tank with clean water. Add the required amount of product and agitate thoroughly. Fill the tank with clean water and agitate well before use.

NOTE: If spray solution has been left standing, agitate thoroughly before use.

USES:

WHEAT, BARLEY, RYE (not underseeded with legumes): Crops may be sprayed from the 4-leaf to the early flag leaf (shot blade) stage. Do not apply after the flag leaf stage. Treatment at the 4-leaf stage usually combines maximum crop tolerance with maximum weed susceptibility. The recommended safe crop rate is 1.1 litres per hectare. Higher rates may be needed to control certain weed species. Possible crop injury from these higher rates is usually offset by the increased yield of the cleaner crop. Use 50 or more litres of water per hectare. Spraying with higher volumes of water (100 to 150 litres per hectare) may reduce the risk of crop injury.

PRE-HARVEST INTERVALS:

- Do not permit lactating dairy animals to graze fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

FALL RYE, WINTER WHEAT:

Treat in the spring between full tillering and just before the flag leaf stage. **DO NOT APPLY DURING AND AFTER THE FLAG LEAF STAGE.** DO NOT apply in the fall. The recommended safe crop rate is 1.1 litres per hectare. Higher rates may be needed to control certain weed species. Possible crop injury from these higher rates is usually offset by the increased yield of the cleaner crop. Use 50 or more litres of water per hectare. Spraying with higher volumes of water (100 to 150 litres per hectare) may reduce the risk of crop injury.

PRE-HARVEST INTERVALS:

- Do not permit lactating dairy animals to graze fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

ESTABLISHED PASTURES (without legumes),RANGELAND:

Apply at the time of rapid growth (usually May, June and/or September). Spray thoroughly using 2.1 to 6.6 litres of product per hectare in 100 to 300 litres of water. (Use the higher rate for perennial weeds; a second treatment may be required). Apply only after pasture has been grazed or cut and weed growth has resumed. There is a possibility that plants poisonous to livestock will appear more palatable and could be grazed more readily after 2,4-D treatment (eg: tansy ragwort, water hemlock, poison hemlock, death camas). Suitable precautions should be taken when such plants are present. Livestock should not be allowed to graze the treated area until poisonous plants have been removed, are dead or have resumed a normal growth habit. Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.

PRE-HARVEST INTERVALS:

- Do not permit lactating dairy animals to graze fields within 7 days after application

- Do not harvest forage or cut hay within 30 days after application
- Withdraw meat animals from treated fields at least 3 days before slaughter

STUBBLE LAND, ROADSIDES, UNCROPPED LAND:

Apply at the time of rapid growth (usually May, June and/or September). Spray thoroughly using 1.8 to 3.3 litres of product per hectare in 100 to 300 litres of water. (Use the higher rate for perennial weeds; a second treatment may be required). Cultivating grain stubble and spraying after regrowth may aid in control. Do not apply in freshly seeded grasses and pastures until established. There is a possibility that plants poisonous to livestock will appear more palatable and could be grazed more readily after 2,4-D treatment (eg: tansy ragwort, water hemlock, poison hemlock, death camas). Suitable precautions should be taken when such plants are present. Livestock should not be allowed to graze the treated area until poisonous plants have been removed, are dead or have resumed a normal growth habit. Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.

PRE-HARVEST INTERVALS:

- Do not permit lactating dairy animals to graze fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

WOODY GROWTH (non-grazing):

Apply at time of rapid growth (usually May, June and/or September). Prepare a spray solution by mixing 3.6 to 9.6 litres of product in 1000 litres of water. Use the lower rate for species that are more susceptible such as chokeberry, western snowberry and willow. Depending on the density of brush, 1000 to 3000 litres of spray solution may be required per hectare. Spray brush species up to 3 metres tall after foliage is well developed. Applications soon after leaves are fully open usually give the best results. Apply sufficient spray volume to thoroughly wet all plant parts to the ground line.

Brush or trees above 3 metres tall should be cut close to the ground and sprayed when the regrowth is over 0.6 m tall. With good growing conditions and adequate soil moisture, sprays may be applied up to 2 to 3 weeks before normal frost time.

To reduce potential drift hazard in non-crop locations LO-DRIFT may be added. Follow all directions on the LO-DRIFT label for the correct mixing sequence.

Generic Aerial Application Label Instructions

Directions for Use

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *Basic Knowledge Requirements for Pesticide Education in Canada: Applicator Core* and *Aerial Module*, developed by CAPCO.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

Operator Precautions

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer or obtain technical advice from the distributor or your provincial agricultural representative.

AIRCRAFT APPLICATION: On susceptible species prepare a spray solution by mixing 3.6 to 9.6 litres of product in 55 litres of water. Apply as a foliar spray in 55 to 165 litres of spray solution per hectare. Use the lower rate in species that are very susceptible such as chokecherry, western snowberry and willow. Spray after the foliage is well developed. With good growing conditions and adequate soil moisture, sprays may be applied up to 2 to 3 weeks before normal frost time. If an oil water carrier is preferred, use the recommended rate in 15 litres of oil and mix this in 40 litres of water with continuous agitation.

Use special care during aircraft application as risk of drift is greater. Use caution when spraying in winds exceeding 8 km/h.

DO NOT spray near sensitive, desirable vegetation as contact with spray drift will cause damage.

USE PRECAUTIONS FOR AERIAL APPLICATION (to cereal crops, pasture, rangeland, stubble and non-crop land):

- Avoid direct applications to any body of water. Do not contaminate water through spray drift or by cleaning of equipment or disposal of wastes.
- Use boom pressure of 235 kPa or less. Avoid placing nozzles where spray will enter wing tip vortices.
- Do not apply this product directly to, or otherwise permit it to come into direct contact with desirable crop or other desirable broadleaf plants or non-target species and do not permit spray mists to drift onto them.
- Coarse sprays are less likely to drift, therefore, use only nozzles or nozzle configuration which minimize the production of the spray drops. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. When spraying avoid combination of pressure and nozzle type that will result in fine particles (mist) which are more likely to drift. A spray thickening agent or drift retardant may be used with this product to aid in reducing spray drift.
- Do not use human flaggers.
- **Avoid Spray Drift:** Apply only when there is little or no hazard from spray drift. Small quantities of the spray, which may not be visible, may seriously injure susceptible crops and damage sensitive non-target habitat. A method must be used to detect air movement, lapse conditions, or temperature inversions (stable air) such as the use of balloons or a continuous smoke column at or near the spray site or a smoke generator on the spray equipment. If the smoke develops into layers or indicates a potential for hazardous spray drift, do not spray.
- **Buffer Zones:** Appropriate buffer zones should be established between treatment areas and aquatic systems and treatment areas and significant wildlife habitat.

WEEDS CONTROLLED

SUSCEPTIBLE: easy-to-control weeds in the seedling stage (2 to 4 leaf) and growing rapidly. Use 0.7 to 1.1 litres per hectare. Use the higher rate for larger weeds, dry or cold

weather, or heavy infestations.

Annual sow thistle, bluebur (before the 4-leaf stage), cocklebur, daisy fleabane, false flax, flixweed, goat's-beard, kochia, lamb's-quarters, mustards (except dog and tansy), plantain, prickly lettuce, ragweeds, redroot pigweed, Russian pigweed, Russian thistle, shepherd's purse, stinging nettle, stinkweed, sweet clover, wild radish, wild sunflower.

LESS SUSCEPTIBLE: harder-to-control weeds in the seedling stage (2 to 4 leaf) and growing rapidly. Use 1.2 to 1.8 litres per hectare. Use the higher rate for larger weeds, dry or cold weather, or heavy infestations.

Weeds listed under susceptible plus blue lettuce, biennial wormwood, common chickweed, common purslane, curled dock (young), dandelion, dog and tansy mustard, oak-leaved goosefoot, groundsel, gumweed, hawkweed, heal-all, hedge bindweed, knotweed (before the 4-leaf stage), leafy spurge, peppergrass, pineappleweed, prostrate pigweed, Russian knapweed, sheep sorrell, smartweed, velvet leaf, wild buckwheat, yellow rocket (before the 4-leaf stage).

TOP GROWTH CONTROL ONLY: Use 1.2 to 1.8 litres per hectare. Bull thistle, burdock, buttercup, Canada thistle, chicory, curled dock, field bindweed, hoary cress, mouse-eared chickweed, perennial sow-thistle, tartary buckwheat, teasel, yellow rocket.

CLEANING OF SPRAYER:

Thoroughly clean the herbicide sprayer before applying any other chemical on crops which may be damaged (see USE PRECAUTIONS). Wash the outside of the sprayer and drain the tank completely. Remove and clean filters, screens and nozzle tips separately. Fill the sprayer tank with clean water. With the agitator running flush out the lines and boom, then drain. Fill the sprayer with clean water and for each 100L add 1L household ammonia. Operate the pump and agitator for 15 minutes. If possible, let the solution remain in the tank and hoses overnight; recirculate and flush out the lines and boom, then drain. Rinse out twice with clean water, recirculating and draining each time. Do not contaminate irrigation or drinking water when cleaning the sprayer.

RESISTANCE-MANAGEMENT RECOMMENDATIONS:

For resistance management, Nufarm Weedone 100 2,4-D Ester LV500 Liquid Herbicide is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Nufarm Weedone 100 2,4-D Ester LV500 Liquid Herbicide and other Group 4 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of Nufarm Weedone 100 2,4-D Ester LV500 Liquid Herbicide or other Group 4 herbicides with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted.
- Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Nufarm Agriculture Inc. at 1-800-868-5444 or at www.nufarm.ca.

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